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## PATENT SPECIFICATION



Convention Date (Germany): Nov. 7, 1936.

496,326

Application Date (In United Kingdom): Nov. 8, 1937. No. 30599/37.

Complete Specification Accepted: Nov. 29, 1938.

### COMPLETE SPECIFICATION

#### Improvements in Light Obscuring Devices for Electric Lamps

I, PAUL FRITZ SCHÖNBERNER, of Oschatz, Saxony, Germany, a German citizen, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a light obscuring device for use during air raids, its object being to obtain a device whereby the electric light bulbs will be shaded so that the light can either be entirely obscured, or, if desired, partly transmitted, filtered or not, in a given direction, so as to provide, in the neighbourhood of the lamp, sufficient working illumination.

With this object in view the invention consists in a light obscuring device of paper or the like in the form of a foldable or extensible lantern characterised by the feature that the device comprises an aperture or apertures through which pass in a light tight manner the lamp holder or lamp leads, and a further aperture or a transparent part which is closable or adjustable and through which light may pass to the desired amount and in the desired direction, the body of the device being otherwise opaque.

In the case of lanterns of cylindrical or prismatic form, flat top and bottom members may be employed which are formed with openings, in one case for connection to the electric bulb holder and in the other case for transmitting the light. The latter opening is made large enough to admit the bulb to the holder, and it is provided with means either for obscuring the light entirely or for transmitting light through a colour filter. For this purpose a shutter or filter may either be attached by clips to the bottom member or inserted into a pocket or guideway therein. The filter may have any suitable colour for instance blue, green or ruby red.

As an alternative a shutting off or filtering device may be combined in one piece with the body of the lantern and adapted to be opened and closed at will.

The foldable lantern may comprise a transparent or translucent part adapted to be extended or expanded for use.

Fig. 1 of the accompanying drawings represents a sectional view of a light obscuring device constructed according to the invention.

Fig. 2 is a view of a filter for use therewith.

Fig. 3 is a view of the same device fitted with a modified form of filter.

Fig. 4 is a view showing a further modification of the filter,

Fig. 5 is a bottom view of the device showing a modified filter holder,

Fig. 6 is a section on the line A—B of Fig. 5,

Fig. 7 is another bottom view showing a still further modification of the filter arrangement,

Fig. 8 is a view of the same arrangement showing the filter in position of use,

Figs. 9 and 10 show further modifications of the cylindrical or prismatic type of lantern,

Figs. 11 and 12 show a spherical or cylindrical lantern in different positions of use,

Figs. 13 and 14 are similar views of a modified form of spherical or cylindrical lantern.

Fig. 15 shows a modification of the lantern described in connection with Fig. 9,

Fig. 16 shows a detail of the lantern suspension, and

Fig. 17 is a plan view of this type of lantern.

In the arrangement shown in Fig. 1 the light obscuring device consists of a foldable paper lantern of cylindrical or prismatic form. The body of the lantern is made of opaque paper or like material which folds in known manner like bellows and is fitted with stiff top and bottom members 1 and 6 respectively. The top member has a central aperture 2 which fits the socket 3 of an electric lamp bulb 4, and the bottom member has a larger aperture 6b adapted to admit the bulb into the lantern and also to transmit a light beam in vertical direction. The aperture 6b can be closed when required by the attachment to the member 6 of a shutter or of a colour filter. Such a filter is shown in Fig. 2. It comprises a ring

25 carrying centrally a filter 27 which may be made of gelatine, artificial resin, cellulose derivative or the like. At the edges of the ring metal clips 28 are provided which are adapted to fold over the outer edges of the member 6 for securing the filter in position, as shown in Fig. 1. Preferably the ring 25 is formed with a circular beading 26 arranged so as to bear against the member 6 for a complete shutting off of unfiltered light.

The arrangement may be modified as shown in Fig. 3 wherein the clips 28<sup>1</sup> of a filter holder 25<sup>1</sup> are adapted to engage the inner edge of the member 6.

A further modification is shown in Fig. 4 wherein the filter has the form of hemispherical bellows which are permanently connected to the member 6 and controlled by a pair of centrally disposed, semi-circular frames 29 whereby the filter can be opened out for the passage of light. Naturally the filter may be replaced by an opaque structure which will then, when extended, completely shut out the light.

Fig. 5 shows a further arrangement for attaching a flat filter or shutter to the bottom member 6. In this case the latter is fitted with three offset ledges 30 arranged at right angles to each other so as to form a guideway into which a filter holder or shutter 25a can be slipped, as shown in Fig. 6. The free edge of the holder 25a may be formed with a downturned lug 25b serving as a hand grip for the convenient insertion and withdrawal of the filter.

This arrangement may be modified by connecting to the member 6, along the lines followed by the ledges 30, a duplicate of the member, so as to form a pocket into which the filter holder can be inserted. The illustrated holder may naturally be replaced by a simple sheet of suitable, sufficiently stiff material. If the sheet is opaque, it may have a slit for transmitting a pilot light.

Figs. 7 and 8 show a further modification of the filter or shutter which in this case consists of a fan 32 adapted to be spread, as shown in Fig. 8, over the opening of the bottom member 6 of the lantern.

Fig. 9 shows an arrangement wherein the bottom of a cylindrical lantern is formed of an opaque member 36 which is connected to the body 5 along a diameter and adapted to be doubled upon itself and secured by a U-shaped clip 37 in open position. The member 36 may also be adapted to extend or fold a hood 41 made of translucent material so as to permit a subdued illumination to pass through when the member 36 is doubled up.

A further development of the arrange-

ment just described is shown in Fig. 10. In this case the lantern is divided by stiffening members 38 and 39 into three sections which can be individually extended and closed. Hooks 10 and 11 are provided for holding any section in closed position. The upper section (shown by dotted lines) may be made of translucent material for example white paper so as to transmit the subdued light when extended. The middle section may be opaque, for example of black paper and the bottom of the lantern may also be opaque and instead may be formed as in Fig. 9 and as indicated by dotted lines in Fig. 10.

Figs. 11 and 12 show a spherical lantern which is divided by semi-circular frames 12, 13, 14 and 15 into three sections. The frames 14 and 15 allow the lantern to be opened for attachment to the lamp holder, and the frames 12 and 13 allow the intermediate, translucent lantern section 40 to be opened out as shown in Fig. 11 or closed as shown in Fig. 12, hooks 16 and eyelets 17 being provided for holding the section in closed position. Suitable means are provided for obtaining a light-tight joint between the lantern and the lamp holder. The lantern shown in Fig. 13 has an axially disposed ring 21 the opening 20 of which fits the lamp holder snugly so as to shut off the light. The frames 22 allow the lantern to be opened, and a further frame 23 allows a translucent section 19 to be opened out as shown in Fig. 13 or closed as shown in Fig. 14.

In the cylindrical construction as shown in Figs. 15 to 17, the top member 1 is fitted with a cone 1b adapted to support the lantern directly on the bulb 4. The cone may be provided with a lining of asbestos. The top member 1 may be provided with air vents, and an ordinary, opaque lamp shade 41a may be used for obstructing the light transmitted by the air vents.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A light obscuring device of paper or the like in the form of a foldable or extensible lantern characterised by the feature that the device comprises an aperture or apertures through which pass in a light tight manner the holder or leads for an electric light bulb, and a further aperture or a transparent part which is closable or adjustable and through which light may pass to the desired amount and in the desired direction, the body of the device being otherwise opaque.

2. A device as claimed in claim 1

wherein the lantern is of substantially cylindrical or prismatic form and has a flat top member formed with a central aperture for connection to an electric lamp holder.

3. A device as claimed in claim 2 wherein the lantern has a flat bottom member which is provided with the light transmitting opening and which is adapted to hold a shutter or light filter.

4. A device as claimed in claim 3 wherein the bottom member is formed with a pocket or guideway for the reception of the filter or shutter.

5. A device as claimed in claim 3 wherein the bottom member carries a hemispherical attachment for shutting off or for filtering the light.

6. A device as claimed in claim 3 wherein the bottom member is fitted with a fan-shaped shutter or filter adapted to be expanded so as to cover the light transmitting opening.

7. A device as claimed in claim 2 having a foldable, opaque bottom member which normally obscures the light and which is adapted when folded to extend a lower lantern part made of translucent material.

8. A device as claimed in claim 7 divided by stiff rings into a plurality of sections adapted to be expanded individually for use, at least one section being made of translucent material and another section of opaque material.

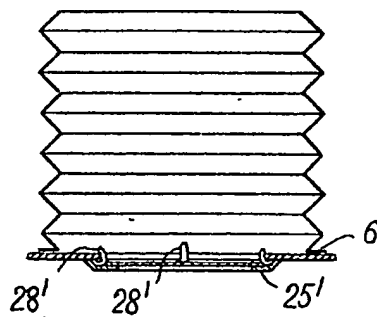
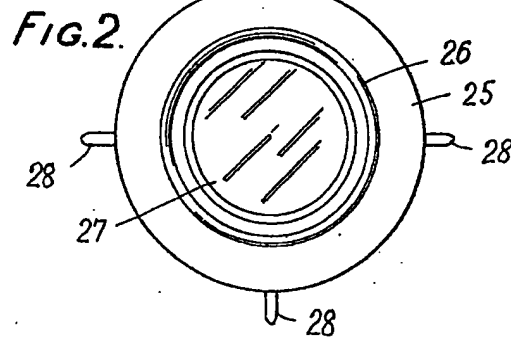
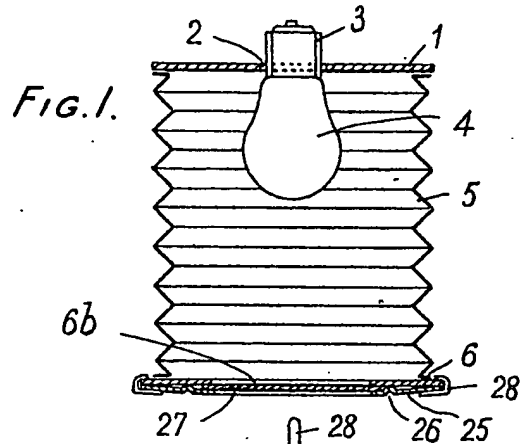
9. A device as claimed in any of the preceding claims wherein the lantern has a top provided with air vents and is combined with a lamp shade which intercepts the light transmitted through said air vents.

10. A device as claimed in claim 1 wherein the lantern has a substantially spherical form and is divided radially into sections which can be individually extended for use, one of said sections being formed of translucent material so as to transmit and filter the light.

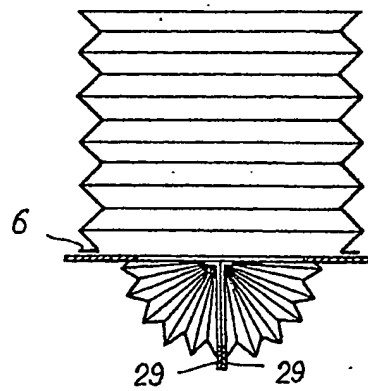
11. A device as claimed in any of the preceding claims wherein the lantern is provided with means for forming a light-tight closure with the lamp bulb or holder.

Dated the 8th day of November, 1937.

HANS & DANIELSSON,  
321, St. John's Street, London, E.C.1,  
Registered Patent Agents.



*FIG. 3.*



*FIG. 4.*

[This Drawing is a reproduction of the Original on a reduced scale.]

FIG. 5.

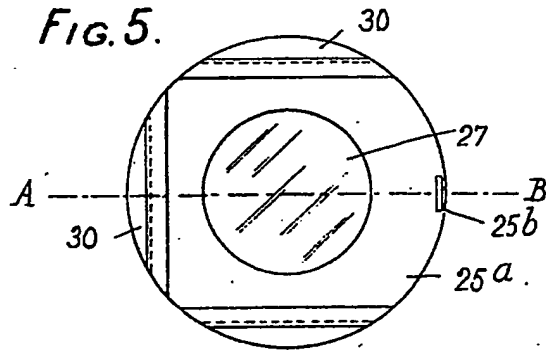


FIG. 6.

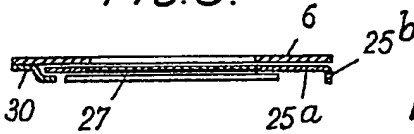


FIG. 7.

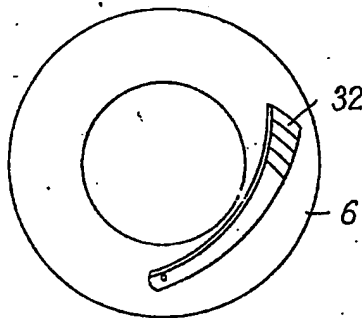


FIG. 8.

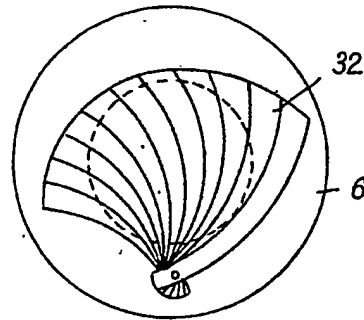


FIG. 15.

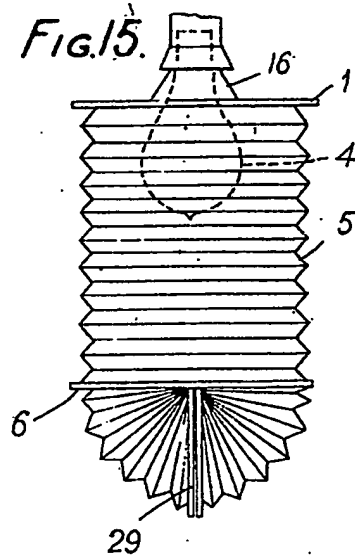


FIG. 16.

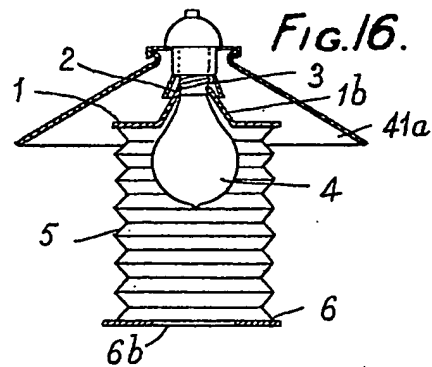


FIG. 17.

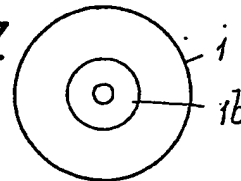




Fig. 1.

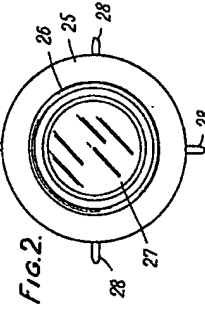


Fig. 2.

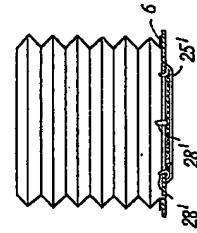


Fig. 3.

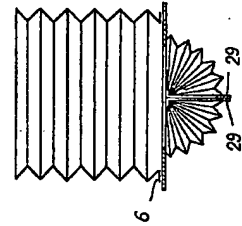


Fig. 4.

Fig. 5.

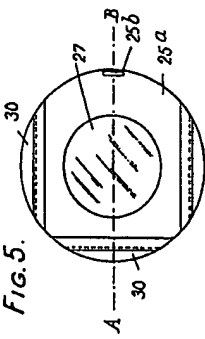


Fig. 6.



Fig. 7.

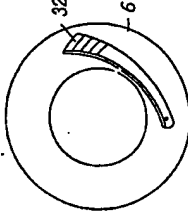


Fig. 8.

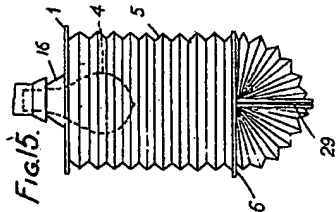


Fig. 15.

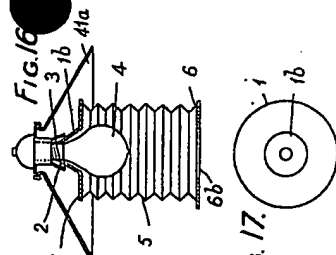


Fig. 16.

Fig. 17.



[This Drawing is a reproduction of the Original on a reduced scale.]

FIG.9.

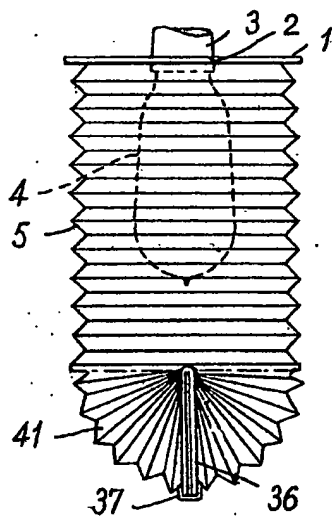


FIG.10.

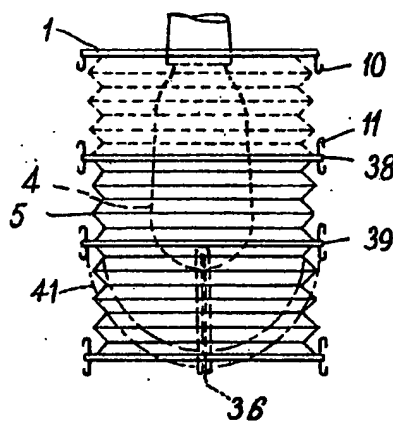


FIG.11.

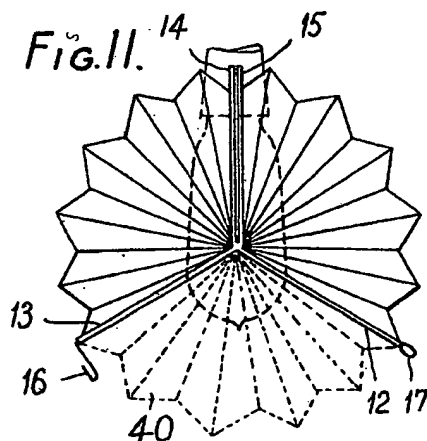


FIG.13.

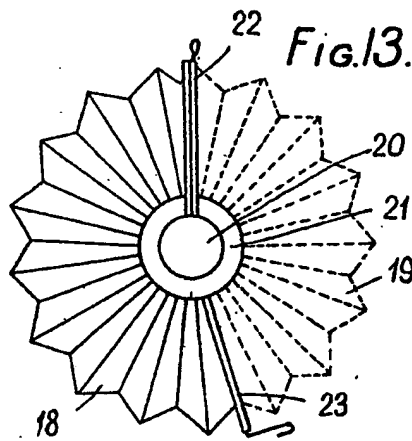


FIG.12.

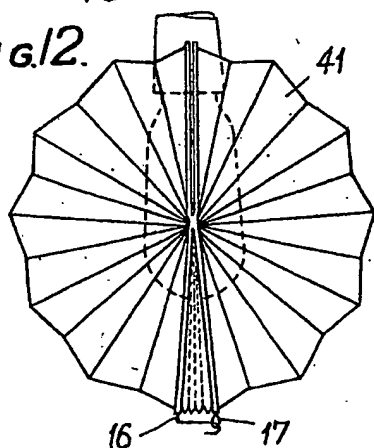
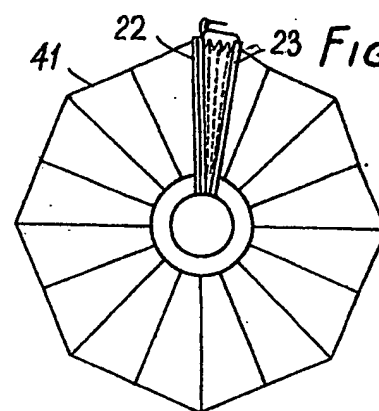


FIG.14.



[This Drawing is a reproduction of the Original on a reduced scale.]